

NEW AND LITTLE KNOWN SPECIES OF AMNICOLIDAE.

BY BRYANT WALKER.

SOMATOGYRUS TENNESSEENSIS n. sp. Pl. 5, fig. 8.

Shell subglobose, perforate, greenish-yellow, smooth with fine lines of growth. Spire short, obtuse; whorls $3\frac{1}{2}$, those of the spires depressed, rounded, with an impressed suture; body-whorl large, inflated, regularly rounded. Aperture large, transversely expanded, sub-triangular, broadly angled above, and somewhat flattened below. Columella narrow with a moderately heavy, rounded, callus, which extends over the parietal wall and, below the minute umbilicus, is separated by a wide axial groove. Lip thick and sharp.

Alt. $4\frac{1}{2}$, diam. 4.25 mm.

Shoal Creek, Florence, Tenn. Types (No. 22377 Coll. Walker). Cotypes in the collections of the Academy of Natural Sciences and A. A. Hinkley.

This species was at first taken to be a form of Conrad's *S. pumilus*. But on removing the animal it was found to differ so radically in the character of the columella as to forbid its reference to that species. Compared with the specimens of that form from Cahatchee Creek, Ala., while of a similar contour, it differs in being larger, thinner, with a more expanded aperture, and in the narrow, rounded columella.

SOMATOGYRUS ALDRICHI, n. sp. Pl. 5, fig. 9.

Shell subglobular, perforate, greenish-yellow, smooth, with very fine, but distinct, lines of growth. Spire very short, depressed, obtusely rounded. Whorls $3\frac{1}{2}$, those of the spire slightly convex with an impressed suture; body-whorl very large, inflated, with a strong carina in front below the periphery, which emerges from below the upper insertion of the lip, and continues about two-thirds around the whorl, where it gradually disappears, not reaching the lip; the upper portion of the whorl above the carina is regularly, but not strongly convex, but below it is obliquely flattened toward the impressed base of the axis. Aperture large, subcircular, obtusely angled above and regularly rounded below. Columella concave, with a broad, heavy, flat callus, which extends over the parietal wall, and is separated below the perforation by a broad axial groove. Lip sharp, thickened within as it approaches the base of the columella.

Alt. $3\frac{1}{2}$, diam. $3\frac{1}{2}$ mm.

Types (No. 21944 Coll. Walker), from the Coosa River, Chilton Co., Ala. Also Catawba River, Ala. Cotypes in the collection of T. H. Aldrich. A single specimen of this extraordinary species was detected in a set of *S. georgianus* from the Catawba River, in the Lewis collection, when my former paper on *Somatogyrus* (Naut., 17, p. 140), was in preparation. But it was of such unusual form that it seemed more likely to be a monstrosity than a distinct species. Recently, however, Mr. T. H. Aldrich has submitted a set from the Coosa, which are remarkably uniform, and leave no doubt but that it is entitled to specific recognition. The discovery by Mr. Hinkley of another but very distinct carinated form in the Tennessee River at nearly the same time is an interesting coincidence, and, like the similar case of *S. umbilicatus* and *strengi*, affords a striking example of evolution along parallel lines in two different drainage systems.

SOMATOGYRUS PUMILUS (Conrad). Pl. 5, fig. 10.

Conrad's original description of this species is very meagre and no dimensions are given. His figure subsequently published in the American Journal of Conchology V, Pl. 15, fig. 5, is on too small a scale to be entirely satisfactory. Fortunately, however, his type has been preserved in the collection of the Philadelphia Academy of Natural Sciences, and until now has been the only specimen known. Recently Mr. T. H. Aldrich has submitted a small form from Cahatchee Creek, Shelby Co., Ala., which seemed to be very similar. Dr. Pilsbry has kindly compared them with the type and writes "they are not quite *pumilus*, as the columella is decidedly too wide and calloused." A careful comparison made during a recent visit to Philadelphia, however, satisfied us both that these specimens could not be distinguished from Conrad's species. In the absence of topotypes, it seems desirable to describe and figure the Cahatchee form for comparison with the new species that have recently been described from the same region.

Shell small, sub-globular, imperforate, thick, solid, pale-green, becoming somewhat yellowish towards the aperture, smooth, with very fine growth-lines. Spire depressed, obtuse, whorls probably $3-3\frac{1}{2}$ (apex eroded), those of the spire slightly convex with a well impressed suture; body-whorl large, inflated, regularly rounded. Aperture subcircular, broadly angled above, regularly rounded below,

columella concave with a heavy, broad, flat callus which extends over the parietal wall, and separated below the axis by a rather wide axial groove. Lip simple but thickened within, especially below.

Alt. $3\frac{1}{2}$, diam. $3\frac{1}{2}$ mm.

This species is distinguished from other described species with an axial groove by its small size and sub-globular shape. It is most closely related to *S. tennesseensis*, but differs in being smaller, more globular; more solid, smaller aperture, narrower axial groove, and broad, flat columella. *S. excavatus*, which is about the same size, is too entirely different in shape to be confounded with it.

SOMATOGYRUS PENNSYLVANICUS Walker. Pl. 5, figs. 17 and 18.

In the Spring of 1905, I collected a few specimens of this species under stones at the upper end of Island Park in the Potomac River at Harper's Ferry, Va. The occurrence of this species in a different drainage system is of interest. The shells are rather larger than those of the original lot from Columbia, Pa., and exhibit the two forms noticed in *S. virginica* and *quadrata*. The dimensions of the specimens figured are:

Fig. 17, alt. 3.75, diam. 2.5 mm.

Fig. 18, alt. 4, diam. 3 mm.

PYRGULOPSIS MISSISSIPPIENSIS (Pils.). Pl. 5, fig. 15.

Pyrgula scalariformis mississippiensis Pils., American Naturalist, January, 1886, p. 75.

Pyrgulopsis mississippiensis Call and Pilsbry, May, 1886.

One of the most interesting discoveries made by Mr. Hinkley during his trip was the finding of this species living in great numbers in Shoal Creek near Florence, Ala. This is the first time the species has been found alive; the original specimens having been all dead shells. We are thus enabled to supply two particulars in which the original description was necessarily defective. The epidermis is of a clear yellowish-horn color and the operculum agrees with the generic diagnosis in being "ovate, thin, corneous, spiral, with the polar point well forward and approximating the columella." The apices of all the mature Shoal Creek specimens were eroded.

AMNICOLA PILSBRYI, n. sp. Pl. 5, figs. 11 and 16.

Shell very small, umbilicate, globose, conic; light horn-colored,

smooth, with faint growth-lines; spire somewhat elevated, apex obtuse; whorls $3\frac{1}{2}$ –4, regularly rounded and somewhat inflated; body-whorl large; suture well impressed. Aperture subcircular, slightly angled above; peristome nearly continuous, being appressed to the body-whorl for only a short distance.

Fig. 11. Alt. 2.25, diam. 2 mm.

Fig. 16. Alt. 2.25, diam. 1.75 mm.

Types (No. 3354 Coll. Walker) from Rockford, Ills. Also from Meyer's Lake, Canton and the Ohio Canal, New Philadelphia, O. Cotypes in the collection of the Academy of Natural Sciences.

This little species in years past must have been largely distributed both as *Lyogyrus grana* and *Amnicola parva*, as I have received it under these names from several different sources. From the former it differs generically, and from the latter in its much smaller size and regularly rounded whorls. It is in general appearance very much like a minute *A. limosa*, but can at once be separated by its diminutive size. As in many species of *Amnicola*, there are two forms, one more slender than the other. From *A. walkeri* (pl. 5, fig. 12, cotype, High Island Harbor, Mich.), which is about the same size, it differs in being more globose, with less convex whorls, the suture being not so deeply impressed, larger aperture and the appression of the inner lip to the body-whorl. Named in honor of Dr. H. A. Pilsbry.

AMNICOLA AUGUSTINA Pils. Pl. 5, figs. 13 and 14.

Mr. Hinkley collected this species at Tuscumbia, Ala. Dr. Pilsbry, who kindly compared specimens with the types, writes: "It seems to me too close to *augustina* to be specifically separable, though there are differences. Your shells have the whorls a trifle less convex, the sutures therefore somewhat less deeply constricting, and the narrow phase (males?) is narrower than the corresponding form in *augustina*, but I would prefer to attribute what differences there are to local causes."

As *A. augustina* has not been figured, and the discovery of Mr. Hinkley not only widely extends its range, but adds a new species to the fauna of Alabama, it seems of sufficient interest to figure the Alabama form and to record its occurrence at Tuscumbia.

Fig. 13. Alt. 3, diam. 2 mm.

Fig. 14. Alt. 3.25, diam. 2.25 mm.